REMARKS

Claims 1-39 are pending in the application, including newly presented claims 25-39 for consideration by the Examiner. In view of the foregoing amendments and the following remarks, reconsideration, reexamination, and allowance of the present application is respectfully requested.

Thanks is expressed to the Examiner for initialing and returning a copy of the PTO-1449 submitted on March 7, 2002.

Objections to the Claims and Drawings

Page 2 of the Office Action set forth an objection to the drawing figures as being informal. Formal drawings are submitted concurrently herewith to address the objections set forth in the Office Action.

The title has been amended to correct a typographical error, and the specification has been amended to address minor informalities identified during a review of the application. No new matter has been added.

Page 2 of the Office Action also set forth an objection to Claims 15 and 19 as containing various informalities. Claims 15 and 19 have been amended to address the drawing objections set forth in the Office Action. Other informalities identified during a review of the claims have also been addressed by the claim amendments.

Art Rejections

Pages 2-3 of the Office Action set forth a rejection of independent Claims 1, 21, and 22, and dependent Claims 2, 4-6, and 14-16, under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,490,070 to *Adams et al.*

As amended, Claim 1 is directed to a device for producing a superfluorescent broadband light source which includes a seed source that provides a broadband optical input. The device also includes an amplitude modulator configured and adapted to polarize the broadband optical input and to amplitude modulate the polarized broadband optical input. The amplitude modulator is operably coupled to the seed source. The system also includes a polarization maintaining (PM) amplifier operably coupled to the modulator. The seed source optical input is polarized in the modulator so that a polarized output is

outputted therefrom. The polarized optical output of the modulator is inputted to the PM amplifier. The PM amplifier is configured and arranged so as to amplify an intensity of the polarized optical output from the modulator and to output an amplified polarized optical output therefrom.

U.S. Patent No. 6,490,070 to *Adams et al.* is directed to a system for tracking the polarization of a signal, for example, in point-to-point free space laser communication systems such as those used in CATV broadcasting. Tracking involves keeping the antennas of the transmitter and the receiver properly pointed at each other. See col. 1, lines 27-43. A light signal is generated by a DFB (distributed feedback) laser source 12 and is carried by a polarization maintaining fiber 14 to the polarization modulator 16. The output of the DFB is a narrow line, linearly polarized light source. (See Figure 1 and col. 3, line 66 - col. 4., line 6). The polarization modulator applies a sinusoidal voltage to produce a laser light with a state of polarization that sweeps from linear vertical, to elliptical, to circular, to elliptical in another direction, to linear horizontal. See col. 4, lines 11-24. This modulated state is fed into an polarization maintaining amplifier to amplify the incoming signal. The amplified signal is transmitted to the optical receiver 10. See col. 4, lines 25-34. The receiver 10 includes a quad-cell tracking detector that determines whether the receiver's orientation has to be adjusted. See col. 5, lines 12-24.

Claim 1, as amended, is not anticipated by *Adams et al.* for at least the following reasons. First, there is no disclosure in *Adams et al.* that the *Adams et al.* system has a seed source that provides a broadband optical input. Instead, *Adams et al.* discloses that a DFB (distributed feedback laser) is used as the light source for the system, and produces a narrow line light source.

Second, *Adams et al.* does not disclose an amplitude modulator that is configured and adapted to polarize the broadband optical input and amplitude modulate the polarized broadband optical input, the amplitude modulator being operably coupled to the seed source, and the polarized optical output of the amplitude modulator being inputted to the PM amplifier. The polarization modulator 16 of *Adams et al.*, which the Office Action indicated corresponded to the claimed modulator, modulates the polarization of a light signal. Therefore, the *Adams et al.* polarization modulator 16 cannot correspond to the claimed amplitude modulator. It is also noted that the *Adams et al.* analyzer 46 cannot correspond to the claimed amplitude modulator, because its output is not inputted to a polarization maintaining amplifier.

For at least these reasons, Claim 1 is not anticipated by *Adams et al.*

Amended independent Claims 21 and 22 are each is directed to a method which include, among other features, providing a broadband optical input, and polarizing the optical input in an amplitude modulator. As discussed in the paragraphs above regarding Claim 1, *Adams et al.* does not disclose a method having these features. Accordingly, Claims 21 and 22 are allowable over the disclosure of *Adams et al.*

Pages 3 and 4 of the Office Action set forth a rejection of Claim 1 as being anticipated by U.S. Patent No. 6,023,362 to *Walker et al.*

Walker et al. is directed to a cable television transmitter which uses as its source 42 a semiconductor laser to produce an optical carrier signal. The optical source has a narrow linewidth and is polarized (col. 2, lines 54-60). A premodulation amplifier 42 amplifies the unmodulated carrier signal or path 41. A modulator 44 impresses information on the amplified carrier signal. An optional postmodulation amplifier 46 amplifies the modulated signal.

There is no disclosure in *Walker et al.* that the laser produces a broadband optical input. Instead, as discussed above, the optical source has a narrow linewidth.

Moreover, there is no indication in *Walker et al.* that the modulator 44 polarizes the optical input. Indeed, *Walker et al.* discloses that if the modulator 44 is polarization dependent, the system is arranged to ensure that the polarization of the polarized source 42 matches the required polarization of the modulator, or that a polarization controller is inserted in the path between the laser and the modulator. Therefore, Walker et al. cannot be considered to disclose an amplitude modulator configured and adapted to polarize and amplitude modulate the polarized broadband optical input, wherein the polarized optical output of the amplitude modulator is inputted to the PM amplifier, as set forth in Claim 1.

For at least these reasons, Claim 1 is not anticipated by *Walker et al.*

Page 5 of the Office Action set forth a rejection of independent Claim 19 as being obvious under 35 U.S.C. § 103(a) based on the disclosures of *Adams et al.* and U.S. Patent No. 5,481,391 to *Giles et al.*

Claim 19 includes the above-discussed features that the amplitude is an amplitude modulator and that the optical input is broadband. As discussed above, *Adams et al.* does not disclose either of these

features. Nor does *Giles* provide any guidance for modifying the narrow-band system of Adams et al. to include the features set forth in Claim 19. Accordingly, Claim 19 is patentably distinct over the combined disclosures of *Giles* and *Adams et al.*

The dependent claims are believed to be allowable for at least the same reasons that independent Claims 1, 19, 21, and 22 are allowable. It is noted that although the Office Action Summary sheet indicates that Claim 20 is rejected, the Office Action does not set forth any grounds for rejection of Claim 20.

For at least the foregoing reasons, Claims 1-24 are believed to be allowable over *Giles*, *Adams et al.* and *Walker et al.*, either singly or in combination. Withdrawal of the rejections under 35 U.S.C. § 102 and 103 is therefore respectfully requested.

New Claims 25 - 39 are presented to set forth additional subject matter to which the applicants are believed to be entitled. Support for the claim language is found at least at Figure 2 and page 3 and 25 of the specification. Favorable action regarding Claims 25-39 is therefore respectfully requested.

All of the outstanding matters having been addressed, Applicants request an early indication of the allowability of the application, in the form of a Notice of Allowance. Should any questions arise with regard to this Response, or with regard to the application in general, the Examiner is invited to contact the undersigned at the number listed below.

The accompanying fee transmittal sheet authorizes the Commissioner to charge Deposit Account No. 50-0281 for the fee for a one-month extension of time, and the fee for additional claims. Kindly charge any other fee which may be due, or credit overpayments, to Deposit Account No. 50-0281.

Respectfully submitted,

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